ICRM Gamma Spectrometry Working Group

Coincidence Summing Corrections

KORSUM II

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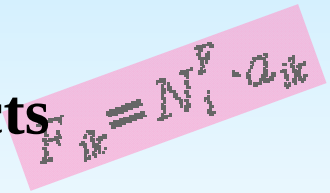
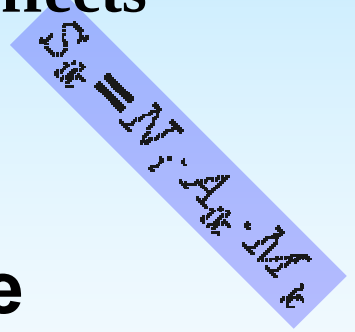
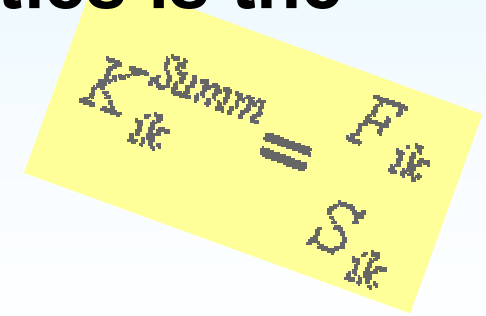
Method

- **Analytical calculation of the probabilities of full energy deposition in the detector for every transition of the decay scheme including K-X rays:**
  1. **taking summing-in and summing-out effects into account**
  2. **neglecting such effects**



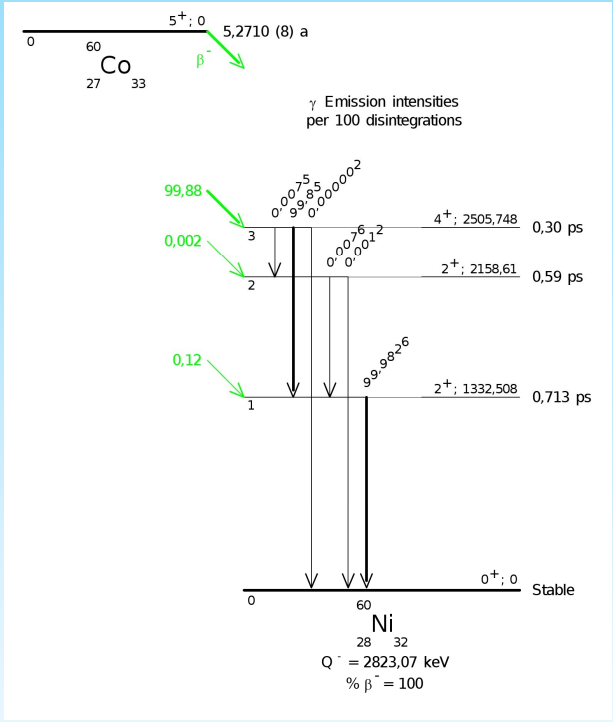


- **Ratio of these two probabilities is the correction coefficient**

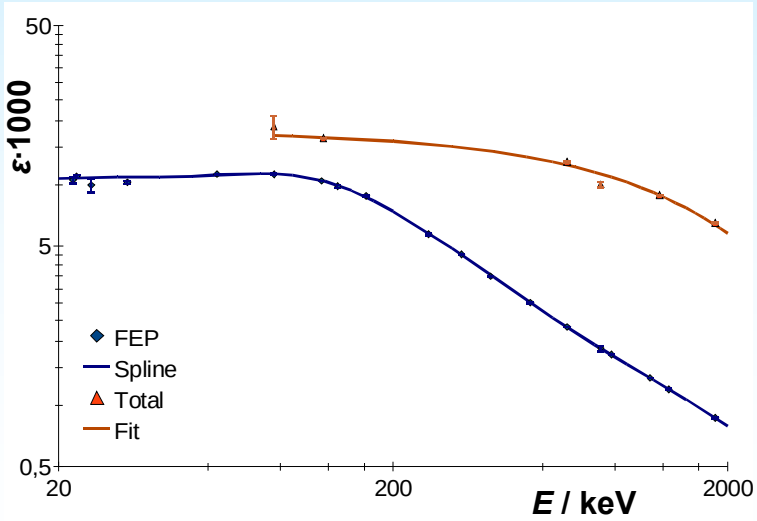


Input data

- **Nuclide data (E, N, p_y, α, p_K, ω_K) from databases**



Efficiencies ε at 10 cm (LNHB's G8)



- **Efficiency data from calibration measurements (Full Energy Peak and Total)**

Bibliography

G.J. McCallum and G.E. Coote

Influence of source-detector distance on relative intensity and angular correlation measurements with Ge(Li) spectrometers

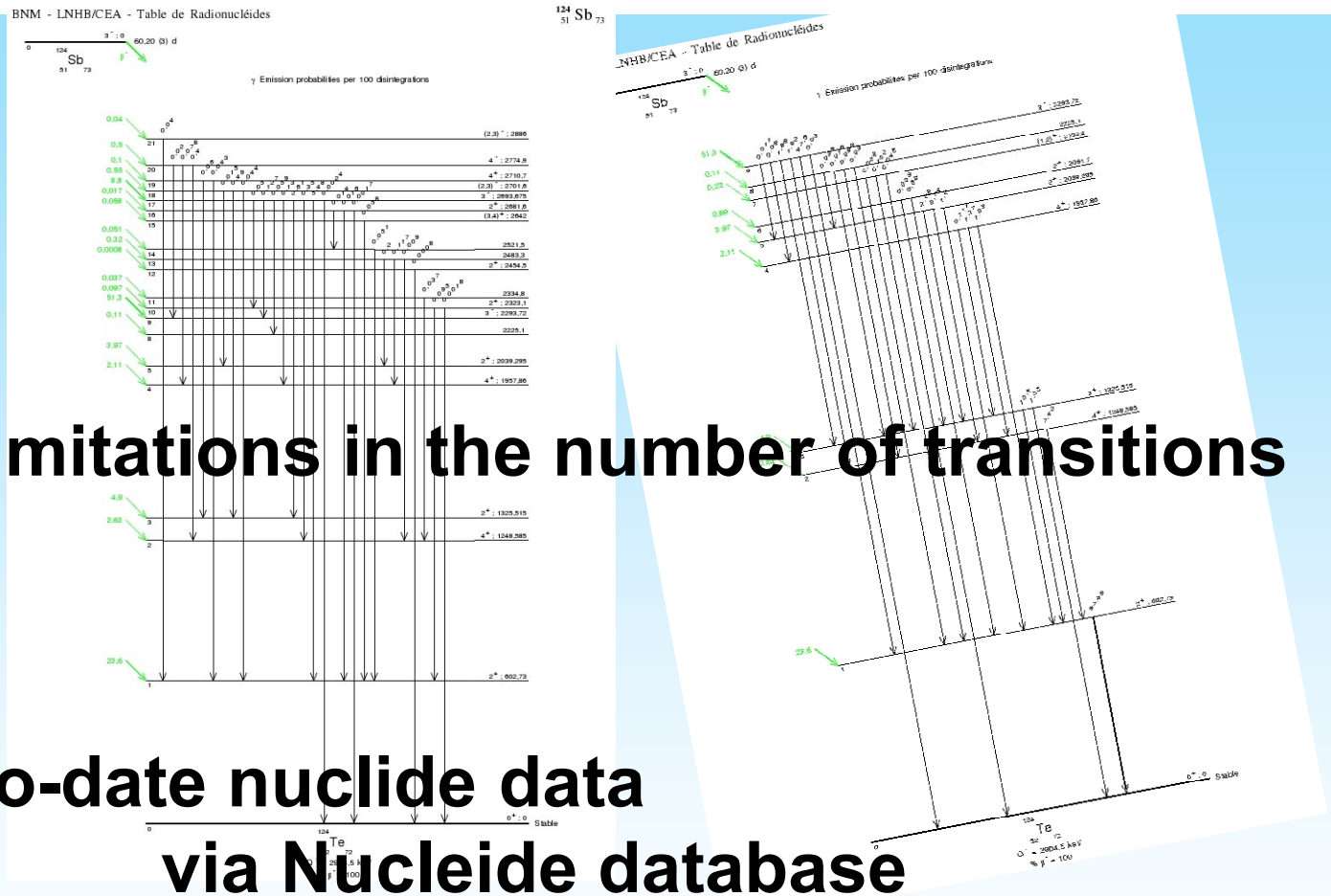
Nuclear Instruments and Methods 130 (1975) 189-197

Klaus Debertin and Ulrich Schötzig

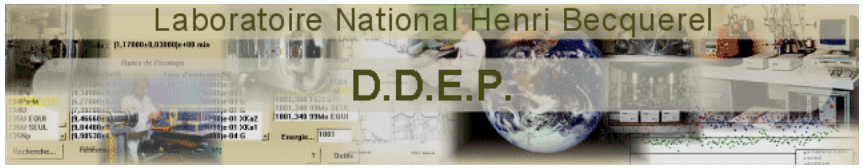
Coincidence summing corrections in Ge(Li)-spectrometry at low source-to-detector distances

Nuclear Instruments and Methods 158 (1979) 471-477

Improvements of KORSUM II

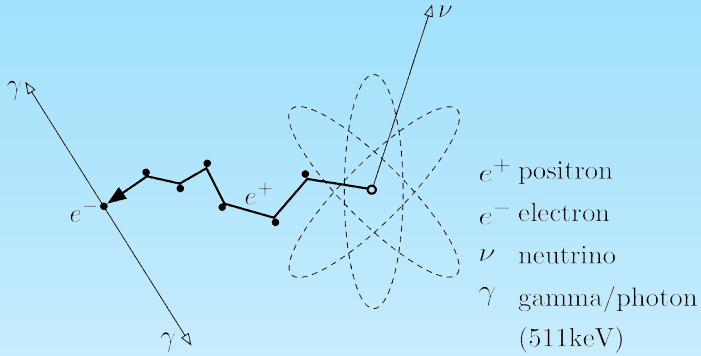


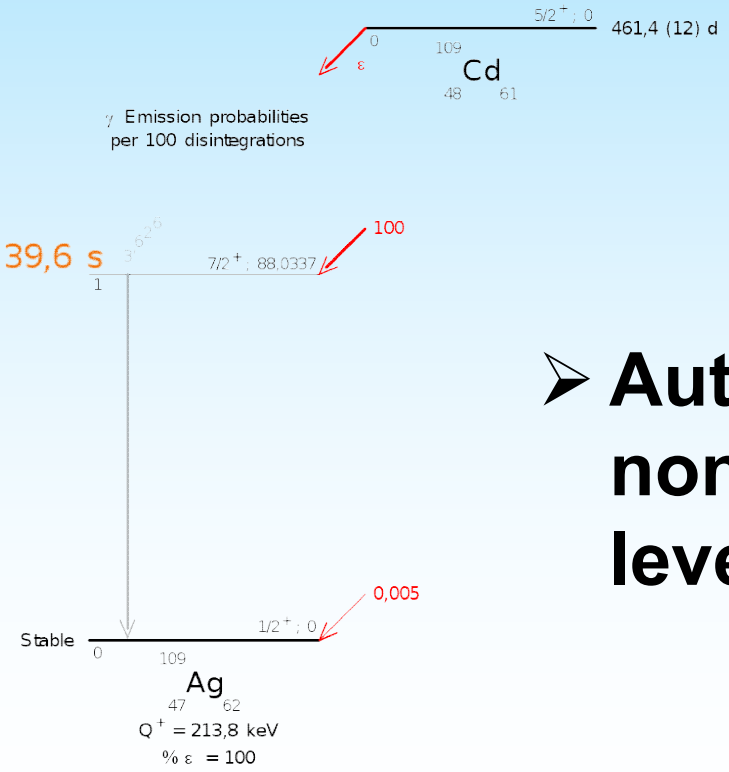
- **No limitations in the number of transitions**
- **Up-to-date nuclide data via Nucleide database**



Improvements in KORSUM II

- **Automatic inclusion of annihilation radiation**





- **Automatic identification of non-coincident long-lived levels**

Thank you